We Claim:

1. In a computing environment, said computing environment including a display for viewing by a user; a method comprising the steps of:

collecting batch process data from an ongoing process, said collection of process data being measurements of said ongoing process;

performing analysis of said collection of process data prior to the completion of said batch process;

determining an indicator of process condition based upon said analysis, said indicator of process condition, based in part on predicted future data from the ongoing batch process; and

displaying said indicator of process condition and said control region in a three dimensional view on said display to said user.

2. The method of claim 1 wherein said process is one of a manufacturing process and a software process.

3. The method of claim 1 wherein said computing environment is a graphical programming environment.

4. The method of claim 1 wherein said process data is generated as a result of at least one of an execution and simulation of at least one block diagram.

5. The method of claim 1, comprising the further steps of:

determining an indication of aberrant behavior based upon relative disjointedness of forecasted process condition at batch completion and the in-control region; and

altering said process prior to batch completion, based on said determining step.

6. The method of claim 1, comprising the further step of:

varying at least one of a color and a transparency of said displayed control region and said indicator of process condition via a user operated control.

7. The method of claim 1 , comprising the further step of:

rotating a user viewpoint of said display via a user-operated control.

8. The method of claim1, comprising the further step of:

varying at least one of a plurality of lighting conditions of the display of said displayed control region and said indicator of process condition via a user-operated control.

9. The method of claim 1 wherein said analysis is Principle Component Analysis (PCA), Multi-way PCA, Projection on Latent Structures (PLS), Multi-way PLS or Functional PCA analysis..

10. The method of claim 1, comprising the further steps of:

determining said control region and said indicator of process condition do not intersect on said display;

selecting a variable from among the data used to predict said indicator of process condition;

adjusting said variable via a user-selected control to a constant value for the remainder of said batch ;

recalculating said indicator of process condition based on said adjusted variable; and

determining an updated intersection status for said control region and said indicator of process condition .

11. The method of claim 10, wherein the determining of an updated intersection status comprises the further step of:

adjusting the display of said control region and said indicator of process condition via user-operated controls.

12. The method of claim 10, comprising the further steps of:

selecting more than one variable from among the process data used to predict said indicator of process condition ; and

adjusting said more than one variable via a user-selected control to a constant value for the remainder of said process in order to determine said updated intersection status.

13. In a computing environment, said computing environment including a display for viewing by a user; a method comprising the steps of:

providing a collection of batch process data, said collection of process data being measurements of a process;

performing analysis of said collection of process data;

determining an indicator of process condition based upon said analysis, said indicator of process condition being an end point location for the measured data in said batch process; and

displaying a control region of acceptable variability in three dimensions and said indicator of process condition on said display to said user, a plurality of three dimensional parameters of said display being able to be manipulated by said user via a control.

14. The method of claim 13 wherein said process is one of a manufacturing process and a software process.

15. The method of claim 13 wherein said analysis is PCA analysis, Multi-way PCA, Projection on Latent Structures (PLS), Multi-way PLS or Functional PCA analysis..

16. The method claim 13, wherein said process data is generated by the execution of at least one of the execution and simulation of a block diagram.

17. The method of claim 13, comprising the further step of:

varying at least one of a color and a transparency of said displayed control region and said indicator of process condition via a user operated control.

18. The method of claim 13, comprising the further step of:

rotating a user viewpoint of said display via a user-operated control.

19. The method of claim 13, comprising the further step of:

varying at least one of a plurality of lighting conditions of the display of said displayed control region and said indicator of process condition via a user-operated control.

20. In a computing environment, said computing environment including a display for viewing by a user; a method comprising the steps of:

collecting batch process data from an ongoing process, said process data used to compute n dimensions of scores, said scores being common factors chosen by a user to monitor significant components of overall process condition;

determining an indicator of process condition based upon a analysis of said n dimensions (n greater than three) of scores, said indicator of process condition based in part on predicted future data from the ongoing process;

selecting three dimensions of scores from said n dimensions;

displaying said indicator of process condition and a determined control region of acceptable variability in a three dimensional view on said display to a user, said indicator of process condition being displayed as a region in said selected three dimensions of scores based on fixing the value of the remaining n-3 (non-viewed) scores at valid coordinates within the n-dimensional process condition region.

displaying a projection-selector representing the region of valid choices for the said n-3 remaining non-viewed (fixed) scores;

dynamically linking (cross-referencing) the three-dimensional score display with the projection-selector, so that a user-manipulation of the projection-selector updates the three-dimensional score view.

21. The method of claim 20, comprising the further steps of:

depicting visually the continued effect of manipulating said projection-selector on said three dimensional view of said three dimensions of scores and said control region, and to superpose the three dimensional views in order to show previous movements as well as the current position.

22. The method of claim 20 wherein said process is one of a software process and a manufacturing process.

23. The method of claim 20 wherein more than three dimensions of scores are selected and said n-3 dimensions associated with said visual indicator is altered to n-the number of dimensions of scores selected. The method of claim 20 wherein said analysis is PCA analysis, Multi-way PCA, Projection on Latent Structures (PLS), Multi-way PLS or Functional PCA analysis.

24. The method claim 20, wherein said process data is generated by at least one of the execution and simulation of a block diagram.

25. In a computing environment, a system comprising:

a collection of process data collected from an ongoing process;

means for analyzing said process data, said analysis determining an indicator of process condition based upon said analysis, said indicator of process condition based in part on predicted future data from the ongoing process; and

a display displaying said indicator of process condition and said control region in a three dimensional view on said display to a user monitoring said process.

26. The system of claim 25 wherein said computing environment performs at least one of the execution and simulation of a block diagram.

27. A medium for use in a computing environment, said computing environment including a user interfaced with a display; said medium holding computer-executable instructions for a method, said method comprising the steps of:

collecting process data from an ongoing batch process, said collection of process data being measurements of said ongoing batch process;

performing analysis of said collection of process data prior to the completion of said batch process;

determining an indicator of process condition based upon said analysis, said indicator of process condition, based in part on predicted future data from the ongoing batch process; and

displaying said indicator of process condition and said control region in a three dimensional view on said display to said user.

28. The medium of claim 27 wherein said process is one of a manufacturing process and a software process.

29. The medium of claim 27 wherein said computing environment is a graphical programming environment.

30. The medium of claim 27 wherein said process data is generated by at least one of an execution and simulation of at least one block diagram.

31. The medium of claim 27, comprising the further steps of:

determining an indication of aberrant behavior based upon relative disjointedness of forecasted process condition at batch completion and the in-control region; and

altering said process prior to batch completion, based on said determining step.

32. The medium of claim 27, comprising the further step of:

varying at least one of a color and a transparency of said displayed control region and said indicator of process condition via a user operated control.

33. The medium of claim 27, comprising the further step of:

rotating a user viewpoint of said display via a user-operated control.

34. The medium of claim27, comprising the further step of:

varying at least one of a plurality of lighting conditions of the display of said displayed control region and said indicator of process condition via a user-operated control.

35. The medium of claim 27 wherein said analysis is Principle Component Analysis (PCA), Multi-way PCA, Projection on Latent Structures (PLS), Multi-way PLS or Functional PCA analysis.

36. The medium of claim 27, comprising the further steps of:

determining said control region and said indicator of process condition do not intersect on said display;

selecting a variable from among the data used to predict said indicator of process condition;

adjusting said variable via a user-selected control to a constant value for the remainder of said batch;

recalculating said indicator of process condition based on said adjusted variable; and

determining an updated intersection status for said control region and said indicator of process condition.

37. The medium of claim 36, wherein the determining of an updated intersection status comprises the further step of:

adjusting the display of said control region and said indicator of process condition via user-operated controls

38. The medium of claim 36, comprising the further steps of:

selecting more than one variable from among the data used to predict said indicator of process condition; and

adjusting said more than one variable via a user-selected control to a constant value for the remainder of said process in order to determine said updated intersection status.

39. A medium for use in a computing environment, said computing environment including a display for viewing by a user; said medium holding computer-executable steps for a method, said method comprising the steps of:

providing a collection of batch process data, said collection of process data being measurements of a process;

performing analysis of said collection of process data;

determining an indicator of process condition based upon said analysis, said indicator of process condition being an end point location for the measured data in said batch process; and

displaying a control region of acceptable variability in three dimensions and said indicator of completed batch process condition on said display to said user, a plurality of three dimensional parameters of said display being able to be manipulated by said user via a control.

40. The medium of claim 39 wherein said process is one of a manufacturing and software process.

41. The medium of claim 39 wherein said analysis is PCA analysis, Multi-way PCA, Projection on Latent Structures (PLS), Multi-way PLS or Functional PCA analysis.

42. The medium claim 39, wherein said process data is generated by at least one of the execution and simulation of a block diagram.

43. The medium of claim 39, comprising the further step of:

varying at least one of a color and a transparency of said displayed control region and said indicator of process condition via a user operated control.

44. The medium of claim 39, comprising the further step of:

rotating a user viewpoint of said display via a user-operated control.

45. The medium of claim 39, comprising the further step of:

varying at least one of a plurality of lighting conditions of the display of said displayed control region and said indicator of process condition via a user-operated control.

46. In a computing environment, said computing environment including a display for viewing by a user; a medium holding computer-executable steps for a method, said method comprising the steps of:

collecting batch process data from an ongoing process, said process data used to compute n dimensions of scores, said scores being common factors chosen by a user to monitor significant components of overall process condition;

determining an indicator of process condition based upon a analysis of said n dimensions (n greater than three) of scores, said indicator of process condition based in part on predicted future data from the ongoing process;

selecting three dimensions of scores from said n dimensions;

displaying said indicator of process condition and a determined control region of acceptable variability in a three dimensional view on said display to a user, said indicator of process condition being displayed as a region in said selected three dimensions of scores based on fixing the value of the remaining n-3 (non-viewed) scores at valid coordinates within the n-dimensional process condition region.

displaying a projection-selector representing the region of valid choices for the said n-3 remaining non-viewed (fixed) scores;

dynamically linking (cross-referencing) the three-dimensional score display with the projection-selector, so that a user-manipulation of the projection-selector updates the three-dimensional score view.

47. The medium of claim 46, comprising the further steps of:

depicting visually the continued effect of manipulating said projection-selector on said three dimensional view of said three dimensions of scores and said control region, and to superpose these views in order to show previous movements as well as the current position.

48. The medium of claim 46 wherein said process is one of software process and a manufacturing process.

49. The medium of claim 46 wherein said analysis is PCA analysis, Multi-way PCA, Projection on Latent Structures (PLS), Multi-way PLS or Functional PCA analysis.

50. The medium claim 46, wherein said process data is generated by at least one of the execution and simulation of a block diagram.

51. In a computing environment, said computing environment including a display for viewing by a user; a method comprising the steps of:

determining an indicator of process condition based upon an analysis of process data collected from an ongoing process, said indicator of process condition based in part on predicted future data from the ongoing process; and

displaying said indicator of process condition and said control region in a three dimensional view on said display to said user.

52. In a computing environment, said computing environment including a display for viewing by a user; a method comprising the steps of:

collecting process data from a continuous process, said collection of process data being measurements of said continuous process;

performing analysis of said collection of process data;

determining an indicator of process condition based upon said analysis, said indicator of process condition based on the current state of said continuous process; and

displaying said indicator of process condition and said control region in a three dimensional view on said display to said user.

53. The method of claim 52 wherein said process is one of a manufacturing process and a software process.

54. The method of claim 52 wherein said computing environment is a graphical programming environment.

55. The method of claim 52 wherein said process data is generated as a result of at least one of an execution and simulation of at least one block diagram.

56. The method of claim 52, comprising the further steps of:

determining if the said process condition lies within the said control region on said display; and

altering said process based on said determining step

57. The method of claim 52, comprising the further step of:

varying at least one of a color and a transparency of said displayed control region and said indicator of process condition via a user operated control.

58. The method of claim 52, comprising the further step of:

rotating a user viewpoint of said display via a user-operated control.

59. The method of claim 52, comprising the further step of:

varying at least one of a plurality of lighting conditions of the display of said displayed control region and said indicator of process condition via a user-operated control.

60. The method of claim 52 wherein said analysis is Principle Component Analysis (PCA), Multi-way PCA, Projection on Latent Structures (PLS), Multi-way PLS or Functional PCA analysis.

61. The method of claim 52, comprising the further steps of:

determining said control region and said indicator of process condition do not intersect on said display;

selecting a variable from among the data used to predict said indicator of process condition;

adjusting at least one variable via a user-selected control;

recalculating said indicator of process condition based on said at least one adjusted variable; and

determining an updated intersection status for said control region and said indicator of process condition .

62. The method of claim 52, wherein the determining of an updated intersection status comprises the further step of:

adjusting the display of said control region and said indicator of process condition via user-operated controls.

63. A medium for use in a computing environment, said computing environment including a display for viewing by a user; said medium holding computer-executable steps for a method, said method comprising the steps of:

collecting process data from a continuous process, said collection of process data being measurements of said continuous process;

performing analysis of said collection of process data;

determining an indicator of process condition based upon said analysis, said indicator of process condition based on the current state of said continuous process; and

displaying said indicator of process condition and said control region in a three dimensional view on said display to said user.

64. The medium of claim 63 wherein said process is one of a manufacturing process and a software process.

65. The medium of claim 63 wherein said computing environment is a graphical programming environment.

66. The medium of claim 63 wherein said process data is generated as a result of at least one of an execution and simulation of at least one block diagram.

67. The medium of claim 63 wherein said method comprises the further steps of:

determining if the said process condition lies within the said control region on said display; and

altering said process based on said determining step.

68. The medium of claim 63 wherein said method comprises the further step of:

varying at least one of a color and a transparency of said displayed control region and said indicator of process condition via a user operated control.

69. The medium of claim 63 wherein said method comprises the further step of:

rotating a user viewpoint of said display via a user-operated control.

70. The medium of claim 63 wherein said method comprises the further step of:

varying at least one of a plurality of lighting conditions of the display of said displayed control region and said indicator of process condition via a user-operated control.

71. The medium of claim 63 wherein said analysis is Principle Component Analysis (PCA), Multi-way PCA, Projection on Latent Structures (PLS), Multi-way PLS or Functional PCA analysis.

72. The medium of claim 63 wherein said method comprises the further steps of:

determining said control region and said indicator of process condition do not intersect on said display;

selecting a variable from among the data used to predict said indicator of process condition;

adjusting at least one variable via a user-selected control;

recalculating said indicator of process condition based on said at least one adjusted variable; and

determining an updated intersection status for said control region and said indicator of process condition .

73. The medium of claim 63, wherein the step of determining of an updated intersection status comprises the further step of:

adjusting the display of said control region and said indicator of process condition via user-operated controls.